Operation Outline for ST 1

ST 1 contains an acid sludge consisting of a black organic sludge, a light green (acidic) crystal and a strong liquid acid. The majority of the liquid has been previously removed to totes via a valve on ST 1. Additional material was removed by opening the door to ST1 and letting the material drop into a modified tote. A double diaphragm pump removed the liquid to the totes.

We will continue to remove liquid materials as they flow out of the access way into the modified totes. After liquid removal, the black sludge layer will be manually pulled through the door into the modified totes. This material will be slurryed with water and pumped, using the double diaphragm pump with an acid resistant strainer, into 55 gallon poly drums. Extended rakes and hoes will aid the movement of the sludge to the access way and modified totes. Additional modified totes will be available if the material becomes hard to slurry or if solid material needs to be removed and drummed, as detailed below. The crew will remove as much material as possible through the current access door, before the execution of the door sheet. It would be more efficient and take less time if we slurried the material in the tank and pumped it directly into the drums. This way most of the work would be accomplished using mechanical means reducing the stress on our workers. It would also prevent double handling the material from dragging it out and then adding water to slurrying, the difference in added water should be minimal.by doing this revised procedure it will also negate the need to cut the sheet door.

An entry way consisting of a door sheet approximately 6 by 6 feet will be cut into ST 1 utilizing a pneumatic nibbler. An entry hole will be cut into the tank with a drill. The nibbler will cut out the door leaving tabs, so the door is still attached. Additional holes will be drilled and cut in the door plate so it can be held with the overreach forklift. The door way will be tabbed. When the final tabs are cut out the door will be removed using the forklift. The jagged edges will need to be covered with foam or pipe. The same procedure will be utilized from this door sheet to remove the black sludge. If we change the procedure all the worker hazards associated with the door sheet will be negated. The sharp edges , the activity of using the nibbler, which is physically taxing and time consuming, and the need for prolonged physical effort of removal of the sludge with rakes. It will reduce the need for moving the plate steel door with a forklift and those associated hazards.

The crystalline material will be pulled to the modified totes and shoveled into drums. Drums will be placed inside the containment with the overhead lift. The drum will be labeled and place on pallets and removed from the area. If the drums cannot be moved on pallets a drum lifter will be utilized. After removal of the solids ST 1 will be rinsed. When the solids are needed to be removed, SWSES workers can do an entry through the existing entry without the hazards of the cut edges; because most of the material will be removed it makes these entries much safer and reduced our exposure to CSE hazards.

If the material cannot be removed from the two entry ways, a confined space entry will be required to remove the remaining sludge or crystalline material. Additional supplies and personnel will be required. Staffing will include the two entrants, a hole watch, two rescue, and a hole watch supervisor. Two crew members will be need to slurry or package the material, as it is pushed to the entry doors. A pump operator and decontamination assistant will be needed.

The additional equipment will include some type of decontamination showers to rapidly decontaminate entrant personnel if necessary due to a torn suit or broken seal. Chemical boots will be required.